

## ***Salmonella* outcomes differ by serotype, FoodNet, 1996-2003**

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**Background:** Over 2,500 *Salmonella* serotypes are known. The propensity of some serotypes to cause bacteremia is well established. However, few recent data exist on differences in clinical outcome among many serotypes.

**Methods:** FoodNet is a population-based active surveillance network covering all or parts of 9 states. Data on death, hospitalization and specimen source were collected for all cases of laboratory-confirmed *Salmonella* infection in the surveillance area from 1996-2003. Other serotypes were compared to *S. Typhimurium* as a baseline.

**Results:** Of 30,472 ascertained *Salmonella* cases with known serotype, 7,387 (24.2%) were *S. Typhimurium*. Among *S. Typhimurium* cases in which data were available, 22.6% were hospitalized, 5.7% were isolated from extra-intestinal sites and 0.7% died. As expected, *S. Dublin*, *S. Typhi*, *S. Choleraesuis* and *S. Paratyphi A* had significantly higher rates of hospitalization than *S. Typhimurium*. Among lesser known serotypes and subspecies, significantly higher rates of hospitalization were reported in patients with *S. IIIa 18:z4,z23:-* (N=7, 85.7%, RR=20.5, 95% CI=2.5-170.6) and *S. Abony* infections, whereas significantly lower rates were reported in patients with *S. Ohio*, *S. Rubislaw* and *S. Adelaide* infections. Isolates of *S. IIIa 18:z4,z23:-* were also more likely to have been from a sterile site (71.4%, RR=41.5, 95% CI=8.0-214.4), as were *S. Lomalinda* and *S. Arechavaleta*; lower rates of invasive disease were observed for *S. Miami*, *S. Muenchen* and *S. Newport* infections. Compared to *S. Typhimurium*, mortality was significantly higher for patients with *S. IIIa 18:z4,z23:-* (14.3%, RR=24.5, 95% CI=2.9-206.9) and *S. Lomalinda*, but lower for patients with *S. Javiana* and *S. Newport* infections.

**Conclusions:** We found significant differences in severity of clinical outcomes among many *Salmonella* serotypes in addition to those that are well characterized. These observations are limited by the low numbers of some serotypes and the comparison of multiple serotypes to the baseline. Further studies are needed to understand the reasons for these differences. Care must be taken to distinguish among *Salmonella* serotypes in studies of clinical outcomes.